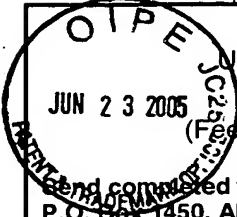


IPW [Signature]  
PTO/SB/30 (11-04)

Approved for use through 07/31/2007. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

 <p><b>PETITION FEE</b> Under 37 CFR 1.17(f), (g) &amp; (h) <b>TRANSMITTAL</b> (Fees are subject to annual revision) Send completed form to: Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450</p>	<b>Application Number</b>	10/743,737
	<b>Filing Date</b>	December 24, 2003
	<b>First Named Inventor</b>	Masashi NAKANISHI et al.
	<b>Art Unit</b>	2188
	<b>Examiner Name</b>	M. Padmanabhan
	<b>Attorney Docket Number</b>	500.43373X00

Enclosed is a petition filed under 37 CFR 1.102(d) that requires a processing fee (37 CFR 1.17(f), (g), or (h)). Payment of \$ 130.00 is enclosed.

This form should be included with the above-mentioned petition and faxed or mailed to the Office using the appropriate Mail Stop (e.g., Mail Stop Petition), if applicable. For transmittal of processing fees under 37 CFR 1.17(i), see form PTO/SB/17i.

**Payment of Fees** (small entity amounts are NOT available for the petition (fees))

- ☒ The Commissioner is hereby authorized to charge the following fees to Deposit Account No. 50-1417:
- ☐ petition fee under 37 CFR 1.17(f), (g) or (h)      ☒ any deficiency of fees and credit of any overpayments
- Enclose a duplicative copy of this form for fee processing.
- ☐ Check in the amount of \$ \_\_\_\_\_ is enclosed.
- ☒ Payment by credit card (From PTO-2038 or equivalent enclosed). Do not provide credit card information on this form.

<p><b>Petition Fees under 37 CFR 1.17(f):</b>      <b>Fee \$400</b>      <b>Fee Code 1462</b></p> <p>For petitions filed under:</p> <ul style="list-style-type: none"> <li>\$ 1.53(e) - to accord a filing date.</li> <li>\$ 1.57(a) - to according a filing date.</li> <li>\$ 1.182 - for decision on a question not specifically provided for.</li> <li>\$ 1.183 - to suspend the rules.</li> <li>\$ 1.378(e) for reconsideration of decision on petition refusing to accept delayed payment of maintenance fee in an expired patent.</li> <li>\$ 1.741(b) - to accord a filing date to an application under \$1.740 for extension of a patent term.</li> </ul>
<p><b>Petition Fees under 37 CFR 1.17(g):</b>      <b>Fee \$200</b>      <b>Fee code 1463</b></p> <p>For petitions filed under:</p> <ul style="list-style-type: none"> <li>\$1.12 - for access to an assignment record.</li> <li>\$1.14 - for access to an application.</li> <li>\$1.47 - for filing by other than all the inventors or a person not the inventor.</li> <li>\$1.59 - for expungement of information.</li> <li>\$1.103(a) - to suspend action in an application.</li> <li>\$1.136(b) - for review of a request for extension of time when the provisions of section 1.136(a) are not available.</li> <li>\$1.295 - for review of refusal to publish a statutory invention registration.</li> <li>\$1.296 - to withdraw a request for publication of a statutory invention registration filed on or after the date the notice of intent to publish issued.</li> <li>\$1.377 - for review of decision refusing to accept and record payment of a maintenance fee filed prior to expiration of a patent.</li> <li>\$1.550(c) - for patent owner requests for extension of time in <u>ex parte</u> reexamination proceedings.</li> <li>\$1.956 - for patent owner requests for extension of time in <u>inter partes</u> reexamination proceedings.</li> <li>\$ 5.12 - for expedited handling of a foreign filing license.</li> <li>\$ 5.15 - for changing the scope of a license.</li> <li>\$ 5.25 - for retroactive license.</li> </ul>
<p><b>Petition Fees under 37 CFR 1.17(h):</b>      <b>Fee \$130</b>      <b>Fee Code 1464</b></p> <p>For petitions filed under:</p> <ul style="list-style-type: none"> <li>\$1.19(g) - to request documents in a form other than that provided in this part.</li> <li>\$1.84 - for accepting color drawings or photographs.</li> <li>\$1.91 - for entry of a model or exhibit.</li> <li>\$1.102(d) - to make an application special.</li> <li>\$1.138(c) - to expressly abandon an application to avoid publication.</li> <li>\$1.313 - to withdraw an application from issue.</li> <li>\$1.314 - to defer issuance of a patent.</li> </ul>

<b>Name (Print/Type)</b>	Frederick D. Bailey	<b>Registration No. (Attorney/Agent)</b>	42,282
<b>Signature</b>		<b>Date</b>	June 23, 2005

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



Docket No.: 500.43373X00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:

Masashi NAKANISHI et al.

Serial No. 10/743,737

Filed: December 24, 2003

For: METHOD, APPARATUS, AND COMPUTER READABLE MEDIUM  
FOR MANAGING BACK-UP

**PETITION TO MAKE SPECIAL  
UNDER 37 CFR §1.102(MPEP §708.02)**

June 23, 2005

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Applicants hereby petition the Commissioner to make the above-identified application special in accordance with 37 CFR §1.102(d). Pursuant to MPEP §708.02(VIII), Applicants state the following.

**(A) This Petition is accompanied by the fee set forth in 37 CFR §1.17(h).**

The Commissioner is hereby authorized to charge any additional payment due, or to credit any overpayment, to Deposit Account No. 50-1417.

**(B) All claims are directed to a single invention.**

If the Office determines that all claims are not directed to a single invention, Applicant will make an election without traverse as a prerequisite to the grant of special status, in conformity with established telephone restriction practice.

**(C) A pre-examination search has been conducted.**

The search was directed to the invention set forth in claims 1-14. The invention is directed to, at a minimum, a backup method selection method using a computer holding a first table storing a backup method identifier for identifying a backup method defining a method for executing backup of a volume and a volume name of the volume to be backed up in a correspondence manner, wherein the computer holds a second table for storing the volume name and state information concerning a state of the volume in a correspondence manner, and a third table for storing a condition concerning the volume state and a backup method identifier in a correspondence manner, the method comprising steps of: judging whether state information stored in the second table in a correspondence manner to the first volume name has been updated; extracting the updated state information when the state information is judged to have been updated; extracting a first backup method identifier and a second backup method identifier from backup identifiers stored in the third table; storing the first backup method identifier in the first table in a correspondence manner to the first volume name when the extracted state information satisfies a first condition stored in the third table in a correspondence manner to the extracted first backup method identifier; and storing the second backup method identifier in the first table in a correspondence manner to the first volume name when the extracted state information satisfies a second condition stored in the third table in a correspondence manner to the extracted second backup method identifier.

The search of the above features was conducted in the following areas:

class 707, subclasses 200-204, class 711, subclasses 111-114, 133, 134, 136, 154, 160-165 and 170-173.

<u>Class</u>	<u>Subclass</u>
707	200-204
711	111-114, 133, 134, 136, 154, 160-165 and 170-173

Additionally, a computer database search was conducted on the USPTO system EAST.

**(D) The following is a list of the references deemed most closely related to the subject matter encompassed by the claims:**

<u>U.S. Patent Number</u>	<u>Inventors</u>
4,607,346	HILL
6,542,975	EVERS et al.
6,854,034	KITAMURA et al.

<u>U.S. Patent Publication No.</u>	<u>Inventor(s)</u>
2002/0065999	KIKUCHI et al.
2003/0233518	YAMAGAMI et al.
2004/0030852	COOMBS et al.
2004/0107315	WATANABE et al.
2004/0148485	SUZUKI

U.S. Patent Publication No.

Inventor(s)

2005/0010733

MIMATSU et al.

A copy of each of these references (as well as other references uncovered during the search) is enclosed in an accompanying IDS.

**(E) It is submitted that the present invention is patentable over the references for the following reasons.**

It is submitted that the cited references, whether taken individually or in combination with each other, fail to teach or suggest the invention as claimed. In particular, the cited references, at a minimum, fail to teach or suggest in combination with the other limitations recited in the claims:

a first feature of the present invention as recited in independent claim 1 including a backup method selection method using a computer holding a first table storing a backup method identifier for identifying a backup method defining a method for executing backup of a volume and a volume name of the volume to be backed up in a correspondence manner, wherein the computer holds a second table for storing the volume name and state information concerning a state of the volume in a correspondence manner, and a third table for storing a condition concerning the volume state and a backup method identifier in a correspondence manner;

a second feature of the present invention as recited in independent claim 6 including a storage medium containing a program for causing a computer

holding a first table storing a backup method identifier for identifying a backup method defining a method for executing a backup of a volume and a volume name of the volume to be backed up in a correspondence manner, to execute: a procedure of holding a second table storing the volume name and state information concerning the volume state in a correspondence manner, and a third table storing a condition concerning a volume state and a backup method identifier in a correspondence manner; and

a third feature of the present invention as recited in independent claim 11 including a computer holding a first table for storing a backup method identifier for identifying a backup method defining a method for executing a backup of a volume and a volume name of the volume to be backed up in a correspondence manner, a second table for storing state information concerning the volume state and the volume name in a correspondence manner, and a third table for storing a condition concerning the volume state and a backup method identifier in a correspondence manner, the computer having a rule creation unit for executing: a step of storing the first backup method identifier in the first table in a correspondence manner to a first volume name when the extracted state information satisfies a first condition stored in the third table in a correspondence manner to the extracted first backup method identifier, and a step of storing the second backup method identifier in the first table in a correspondence manner to the first volume name when the extracted state information satisfies a second condition stored in the third table in a correspondence manner to the extracted second backup method identifier.

To the extent applicable to the present Petition, Applicants submit that although the distinguishing feature(s) may represent a substantial portion of the claimed invention, the claimed invention including said feature(s) and their inter-operation provides a novel storage system and system and method related to or implemented in or by said storage system not taught or suggested by any of the references of record.

The references considered most closely related to the claimed invention are briefly discussed below:

**U.S. Patent No. 4,607,346 (Hill)** discloses a method and apparatus for partitioning a storage device, such as a direct access storage device, into a plurality of devices having different access and storage characteristics matched to the required performance. The apparatus and method are provided for the automatic placement of data on that partitioned device which meets the storage characteristics of the data, where the storage characteristics of data are related to its volume and frequency of access. (See, e.g., Abstract and column 2, line 47, through column 3, line 9.) However, unlike the present invention, Hill does not disclose, at a minimum, a backup method selection method using a computer holding a first table storing a backup method identifier for identifying a backup method defining a method for executing backup of a volume and a volume name of the volume to be backed up in a correspondence manner, wherein the computer holds a second table for storing the volume name and state information concerning a state of the volume in a correspondence manner, and a third table

for storing a condition concerning the volume state and a backup method identifier in a correspondence manner. More particularly, Hill does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 6 and the above described third feature of the present invention as recited in independent claim 11, in combination with the other limitations recited in each of the independent claims.

**U.S. Patent No. 6,542,975 (Evers et al.)** discloses a method and system for backing up data over a plurality of volumes. The system and method includes a method for backing up image data from one or more partitions of a storage device onto one or more backup media. Each backup medium defines backup volume having a predetermined storage capacity with each partition having a plurality of sectors. The method includes: reading the sectors of a selected partition of the storage device for backup in the one or more backup volumes, where a set of the sectors read from the selected partition defines a data chunk for processing the sectors as data chunks; sequentially storing a set of the data chunks in the order read from the partition in a selected backup volume; generating and storing data chunk descriptors configured to reference the stored data chunks in the volume, one data chunk descriptor per data chunk, the data chunk descriptors being stored in the selected backup volume after storing all of the set of data chunks; and generating and storing address data descriptors configured to reference at least one of the stored data chunks and at least one of the data chunk descriptors in the selected backup volume, the address data



descriptors being stored in the selected backup volume after storing the data chunk descriptors. The method also includes the selection of a backup medium to be provided as backup device for backing up data from one or more partitions of the storage device. A header is written at the beginning of the backup medium to identify the volume as one of a set of volumes used to backup the storage device. The header is preferably a constant sized header that is identical for all volumes in the backup set. (See, e.g., Abstract and column 3, line 26 through column 4, line 13, and column 6, lines 45-57.) However, unlike the present invention, Evers et al. does not disclose, at a minimum, a backup method selection method using a computer holding a first table storing a backup method identifier for identifying a backup method defining a method for executing backup of a volume and a volume name of the volume to be backed up in a correspondence manner, wherein the computer holds a second table for storing the volume name and state information concerning a state of the volume in a correspondence manner, and a third table for storing a condition concerning the volume state and a backup method identifier in a correspondence manner. Further, Evers et al. does not disclose a backup method selection method wherein: the state information has a number of files stored in the volume, the first condition includes that the number of files stored in the volume is greater than a predetermined value, the second condition includes that the number of files stored in the volume is smaller than a predetermined value, the first backup method identifier includes information indicating that a volume is used as a medium for backup, and the second backup method identifier includes

information indicating that a tape device is used as a medium for backup. More particularly, Evers et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 6 and the above described third feature of the present invention as recited in independent claim 11, in combination with the other limitations recited in each of the independent claims.

**U.S. Patent No. 6,854,034 (Kitamura et al.)** discloses a plurality of computers and a plurality of storage device subsystems that are interconnected in a network. Any one of the computers has a management means for holding information of the storage devices possessed by the storage device subsystems and a connection relationship between the computers and the storage device subsystems. Each storage device subsystem has a control means for allowing access from the management means to the specified computer. Each computer, when requiring a new storage device, informs the management means of its capacity and type. The management means, when informed by the computer, instructs the storage device subsystem to allow access from the associated computer thereto, whereby the computer can select one of the devices satisfying the request and the computer in question can access the storage device subsystem. The management means also returns predetermined data to the computer as a device assignment request computer. The computer as the device assignment request computer, on the basis of the data returned from the management means, modifies setting of the computer in such a manner that the

computer can use the assigned device. (See, e.g., Abstract and column 2, lines 1-47.) However, unlike the present invention, Kitamura et al. does not disclose, at a minimum, a backup method selection method using a computer holding a first table storing a backup method identifier for identifying a backup method defining a method for executing backup of a volume and a volume name of the volume to be backed up in a correspondence manner, wherein the computer holds a second table for storing the volume name and state information concerning a state of the volume in a correspondence manner, and a third table for storing a condition concerning the volume state and a backup method identifier in a correspondence manner. Further Kitamura et al does not disclose a backup method selection method wherein: the state information has a number of files stored in the volume, the first condition includes that the number of files stored in the volume is greater than a predetermined value, the second condition includes that the number of files stored in the volume is smaller than a predetermined value, the first backup method identifier includes information indicating that a volume is used as a medium for backup, and the second backup method identifier includes information indicating that a tape device is used as a medium for backup. More particularly, Kitamura et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 6 and the above described third feature of the present invention as recited in independent claim 11, in combination with the other limitations recited in each of the independent claims.

**U.S. Patent Publication No. 2002/0065999 (Kikuchi et al.)** discloses a file backup system that utilizes a configuration table to store information such as the names of objective files to be backed up, a backup sequence, and a restore sequence, so as to correspond to one another for the purpose of performing file backup and restoration, based on conditions inherent in a plurality of files according to user's needs and arbitrarily performing the file backup and restoration from an application. The system allows a copy process controller to monitor the occurrence of events and the occurrence of backup and restore execution requirements from an application program passed through an interface for notification, thereby performing the backup and restoration of the corresponding file. (See, e.g., Abstract and paragraphs 38 and 39.) However, unlike the present invention, Kikuchi et al. does not disclose, at a minimum, a backup method selection method using a computer holding a first table storing a backup method identifier for identifying a backup method defining a method for executing backup of a volume and a volume name of the volume to be backed up in a correspondence manner, wherein the computer holds a second table for storing the volume name and state information concerning a state of the volume in a correspondence manner, and a third table for storing a condition concerning the volume state and a backup method identifier in a correspondence manner. Further, Kikuchi et al. does not disclose a backup method selection method wherein: the state information has a number of files stored in the volume, the first condition includes that the number of files stored in the volume is greater than a predetermined value, the second condition includes that the number of files

stored in the volume is smaller than a predetermined value, the first backup method identifier includes information indicating that a volume is used as a medium for backup, and the second backup method identifier includes information indicating that a tape device is used as a medium for backup. More particularly, Kikuchi et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 6 and the above described third feature of the present invention as recited in independent claim 11, in combination with the other limitations recited in each of the independent claims.

**U.S. Patent Publication No. 2003/0233518 (Yamagami et al.)** discloses a data storage systems and the management of replication volumes in a data storage system. One or more mirror volumes are selected from a volume pool to perform to perform mirroring of user specified volumes. User criteria are provided to limit the selection of candidate volumes for mirroring. The system utilizes a physical volume table that contains information such as volume name, physical disk information, vendor name, product name, serial number of the storage system, volume ID of the physical disk, a RAID group ID, and a RAID group busy rate. The information can be monitored periodically and updated in the corresponding physical information table entry. (See, e.g., Abstract and paragraphs 29 and 88.) However, unlike the present invention, Yamagami et al. do not disclose, at a minimum, a backup method selection method using a computer holding a first table storing a backup method identifier for identifying a

backup method defining a method for executing backup of a volume and a volume name of the volume to be backed up in a correspondence manner, wherein the computer holds a second table for storing the volume name and state information concerning a state of the volume in a correspondence manner, and a third table for storing a condition concerning the volume state and a backup method identifier in a correspondence manner. Further, Yamagami et al. does not disclose a backup method selection method wherein: the state information has a number of files stored in the volume, the first condition includes that the number of files stored in the volume is greater than a predetermined value, the second condition includes that the number of files stored in the volume is smaller than a predetermined value, the first backup method identifier includes information indicating that a volume is used as a medium for backup, and the second backup method identifier includes information indicating that a tape device is used as a medium for backup. More particularly, Yamagami et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 6 and the above described third feature of the present invention as recited in independent claim 11, in combination with the other limitations recited in each of the independent claims.

**U.S. Patent Publication No. 2004/0030852 (Coombs et al.)** discloses a method of data backup of data stored in a first storage device coupled to a computer system. The method comprises steps of storing to a backup storage device coupled to the computer system at least one full backup. Each full

backup comprises a copy of the data selected from the first storage device in accordance with a first criteria and attribute data representative of attributes of the selected data. A further step comprises storing to the backup storage device, one or more incremental backups where each incremental backup is a copy of data selected from the first storage device in accordance with the first criteria and a second criteria and attribute data representative of attributes of the selected data. The second criteria is determined in relation to a parent backup to the incremental backup where the parent backup comprises one of a selected full backup and incremental backup previously stored to the backup storage device. A further step comprises storing in a dependency data structure parent data representative of the relationship of each incremental backup to its respective parent backup. Preferably the data dependency structure is a tree-like structure. (See, e.g., Abstract and paragraphs 10-15.) However, unlike the present invention, Coombs et al. does not disclose, at a minimum, storing the first backup method identifier in the first table in a correspondence manner to the first volume name when the extracted state information satisfies a first condition stored in the third table in a correspondence manner to the extracted first backup method identifier; and storing the second backup method identifier in the first table in a correspondence manner to the first volume name when the extracted state information satisfies a second condition stored in the third table in a correspondence manner to the extracted second backup method identifier. More particularly, Coombs et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above

described second feature of the present invention as recited in independent claim 6 and the above described third feature of the present invention as recited in independent claim 11, in combination with the other limitations recited in each of the independent claims.

**U.S. Patent Publication No. 2004/0107315 (Watanabe et al.)** discloses a data backup storage system which copies data between storage systems without the intervention of a CPU and a technique of arranging and rearranging a logical volume on RAID groups in a storage system. The backup system includes an information processing system that has the function of generating a copy of data stored in a volume. The backup storage system includes a logical volume information table which contain information such as a number of each logical storage device on which the corresponding logical volume is mapped, a logical address range indicating an address range on the logical volume mapped on the logical storage device, copy presence/absence information indicating whether or not the logical storage device includes a part of an area made an object of remote copying, and a copy address range indicating that portion of the area made the object of remote copying. (See, e.g., Abstract and paragraphs 97, 98, 103). However, unlike the present invention, Watanabe et al. does not disclose, at a minimum, a backup method selection method using a computer holding a first table storing a backup method identifier for identifying a backup method defining a method for executing backup of a volume and a volume name of the volume to be backed up in a correspondence manner, wherein the computer holds a second table for storing the volume name and state information



concerning a state of the volume in a correspondence manner, and a third table for storing a condition concerning the volume state and a backup method identifier in a correspondence manner. Further, Watanabe et al. does not disclose a backup method selection method wherein: the state information has a number of files stored in the volume, the first condition includes that the number of files stored in the volume is greater than a predetermined value, the second condition includes that the number of files stored in the volume is smaller than a predetermined value, the first backup method identifier includes information indicating that a volume is used as a medium for backup, and the second backup method identifier includes information indicating that a tape device is used as a medium for backup. More particularly, Watanabe et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 6 and the above described third feature of the present invention as recited in independent claim 11, in combination with the other limitations recited in each of the independent claims.

**U.S. Patent Publication No. 2004/0148485 (Suzuki)** discloses a system and a method for managing storage devices. The method for managing storage devices provides a function of automatically changing a scenario and automatically making a partial change to the scenario according to a change in the environment, which are made possible by executing an operation procedure according to an operation rule for storage devices and feeding back a result of execution of the scenario. A storage managing server contains a policy definition

file, a scenario definition file, a priority definition file, an execution result value file, a feedback definition file, and a scenario parameter definition file, and also obtains performance information and executes scenarios. By using all those files and processes, the storage managing server implements automatic management of a policy-based storage system. The system also includes the selection of a particular backup device for backing up of data, according to the scenarios the policy definition file. (See, e.g., Abstract and paragraphs 29-34.) However, unlike the present invention, Suzuki does not disclose, at a minimum, a backup method selection method using a computer holding a first table storing a backup method identifier for identifying a backup method defining a method for executing backup of a volume and a volume name of the volume to be backed up in a correspondence manner, wherein the computer holds a second table for storing the volume name and state information concerning a state of the volume in a correspondence manner, and a third table for storing a condition concerning the volume state and a backup method identifier in a correspondence manner. Further, Suzuki does not disclose a backup method selection method wherein: the state information has a number of files stored in the volume, the first condition includes that the number of files stored in the volume is greater than a predetermined value, the second condition includes that the number of files stored in the volume is smaller than a predetermined value, the first backup method identifier includes information indicating that a volume is used as a medium for backup, and the second backup method identifier includes information indicating that a tape device is used as a medium for backup. More

particularly, Suzuki does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 6 and the above described third feature of the present invention as recited in independent claim 11, in combination with the other limitations recited in each of the independent claims.

**U.S. Patent Publication No. 2005/0010733 (Mimatsu et al.)** discloses a data backup system which utilizes management information for the backup data when performing a backup of the data in a disk volume of a disk array. The disk array has storage regions provided to store the management information for each disk volume of the backup data, and an interface is provided through which the management information for each disk volume is read from and written in by an external computer so that the backup data of disk volumes can be associated with the management information. The management information includes backup creation date and time, and content identifier, and it is set from the external computer, and updated according to the operations such as restore and tape copy based on the command from the external computer. The backup system also includes a volume management table, which includes volume information such as volume number, FC interface number assigned to the access of the disk volume, an FC port address, a logical unit number assigned to the disk volume, and a disk volume number assigned to the mirror destination of that volume. (See, e.g., Abstract and paragraphs 68 and 93.) However, unlike the present invention, Mimatsu et al. does not disclose, at a minimum, a backup

method selection method using a computer holding a first table storing a backup method identifier for identifying a backup method defining a method for executing backup of a volume and a volume name of the volume to be backed up in a correspondence manner, wherein the computer holds a second table for storing the volume name and state information concerning a state of the volume in a correspondence manner, and a third table for storing a condition concerning the volume state and a backup method identifier in a correspondence manner.

Further, Mimatsu et al. does not disclose a backup method selection method wherein: the state information has a number of files stored in the volume, the first condition includes that the number of files stored in the volume is greater than a predetermined value, the second condition includes that the number of files stored in the volume is smaller than a predetermined value, the first backup method identifier includes information indicating that a volume is used as a medium for backup, and the second backup method identifier includes information indicating that a tape device is used as a medium for backup. More particularly, Mimatsu et al. does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 6 and the above described third feature of the present invention as recited in independent claim 11, in combination with the other limitations recited in each of the independent claims.

Therefore, since the references fail to disclose or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 6 and the above described third feature of the present invention as recited in independent claim 11, in combination with the other limitations recited in each of the independent claims, it is submitted that all of the claims are patentable over the cited references whether said references are taken individually or in combination with each other.

### **CONCLUSION**

Applicant has conducted what it believes to be a reasonable search, but makes no representation that "better" or more relevant prior art does not exist. The United States Patent and Trademark Office is urged to conduct its own complete search of the prior art, and to thoroughly examine this application in view of the prior art cited herein and any other prior art that the United States Patent and Trademark Office may locate in its own independent search. Further, while Applicant has identified in good faith certain portions of each of the references listed herein in order to provide the requisite detailed discussion of how the claimed subject matter is patentable over the references, the Patent Office should not limit its review to the identified portions but rather, is urged to review and consider the entirety of each reference, and not to rely solely on the identified portions when examining this application.

In view of the foregoing, Applicant requests that this Petition to Make Special be granted and that the application undergo the accelerated examination procedure set forth in MPEP 708.02 VIII.

**G. Fee (37 C.F.R. 1.17(h))**

The fee required by 37 C.F.R. § 1.17(i) is to be paid by:

☒ the Credit Card Payment Form (attached) for \$130.00.

☐ charging Account \_\_\_\_\_ the sum of \$130.00.

A duplicate of this petition is attached.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.,  
Deposit Account No. 50-1417 (Atty. Docket No. 500.43373X00):

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.



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Frederick D. Bailey  
Registration No. 42,282

FDB/sdb  
(703) 684-1120